PERFORMANCE MONITORING
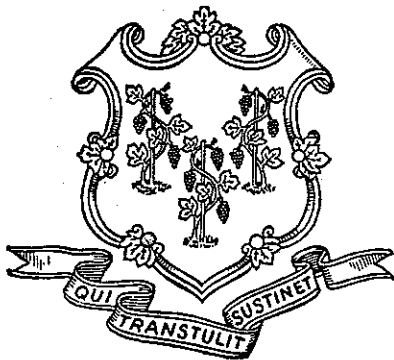
IN

STATE GOVERNMENT

Connecticut

General Assembly

LEGISLATIVE

PROGRAM REVIEW

AND

INVESTIGATIONS

COMMITTEE

APRIL 1992

CONNECTICUT GENERAL ASSEMBLY

LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE

The Legislative Program Review and Investigations Committee is a joint, bipartisan, statutory committee of the Connecticut General Assembly. It was established in 1972 to evaluate the efficiency, effectiveness, and statutory compliance of selected state agencies and programs, recommending remedies where needed. In 1975, the General Assembly expanded the committee's function to include investigations, and during the 1977 session added responsibility for "sunset" performance reviews. The committee was given authority to raise and report bills in 1985.

The program review committee is composed of 12 members. The president pro tempore of the senate, the senate minority leader, the speaker of the house, and the house minority leader each appoint three of those members.

1991-1992
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Performance Monitoring

in

State Government

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Introduction

The Legislative Program Review and Investigations Committee authorized this study on the development of performance monitoring in state government as an outgrowth of the findings of the Thomas Commission, which cited a dearth of measurable indicators on agency operations and programs. This report examines the historical roots of performance monitoring in Connecticut, and the basic principles and necessary components to form a monitoring model. The report also looks at efforts currently underway in three areas of state government to develop performance monitoring systems. As part of the scope of this study, the committee decided to examine the Department of Correction and the Department of Health Services to assess their efforts in monitoring performance. Each agency is analyzed in relation to the basic principles outlined in this study. In the next phase of this study, findings will be developed and recommendations will be made on performance monitoring for state government.

Monitoring the performance of state agencies and programs has been an effort assumed by the Connecticut General Assembly for the past 20 years. In 1971, the legislature established an interim committee on program review and evaluation to conduct an oversight study of special education. The committee went beyond its initial study and issued a report that included several recommendations aimed at improving the budgeting and the performance monitoring process for state government.

The committee called upon the executive branch to develop program objectives upon which performance standards could be based. The committee's report stated that "in order to determine program success or achievement ... certain performance and output standards must be developed." Legislation was proposed that would have required the budget document to identify each program and state the program's objective. The report also proposed development of performance and output standards by which program objectives could be assessed. While several recommendations concerning oversight were passed, including establishment of the Legislative Program Review [and Investigations][1] Committee, performance measures did not become part of the budget process until the 1980s.

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[1] The function of investigations was added in 1975.

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Program Budgeting

The most significant change to the budgeting process came in 1981 when the legislature and the executive branch began to move away from line item budgeting toward program budgeting. In 1981, the legislature passed Public Act 81-466, An Act Concerning a Program Budget for the Governor's Budget and Establishing a Task Force to Analyze the Process of State Funding and State Programs and Services. This legislation required the governor to submit the budget in a program format. The bill also required, for the first time, performance information on the operations of all programs included in the budget document.

Public Act 81-466 required agencies to establish a budget by programs and set program priorities of the agency, in addition to recommending appropriations. The bill also required substantial supporting information for each program that included:

- program objectives;

- program description;

- program budget data by major object;

- full and part-time position summary;

- an explanation of any significant program changes;

- a priority ranking; and

- alternative methods of achieving program objectives and the consequences of program elimination.

In addition to these seven program budget requirements, the legislation required that the budget include:

> A statement of performance and output standards by which the accomplishments toward the program objectives can be assessed, including data and information describing the performance and output for the last-completed fiscal year, the current fiscal year, and relating to the agency request and the governor's recommended appropriations for the ensuing fiscal year.[2]

This represents the first time agencies were required to report performance information on the operation of programs.

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[2] Public Act 81-466, Section 1(b)(4).

Further changes were made to the budgeting process in 1982, which allowed for a delay in program budgeting as well as a refinement of the performance measures agencies must include in the document. The 1982 legislation called for the inclusion of measures to assess program objectives, such as analysis of workload, quality and level of services provided, and program effectiveness.

Program budgeting was fully implemented in FY 86. In that year agencies produced more than 2,000 performance measures. Since then the number of measures has grown for some agencies such as the Department of Health Services, which has more than 140 measures included in its FY 92 budget. However, the usefulness of the measures as true indicators of program output and effectiveness is limited and needs to be carefully examined.

The 1985 Legislative Task Force on the Appropriations Process and the Measurement of State Programs found it would be difficult to use the budget document as the vehicle for reporting performance measures. The task force stated that

> The budget document per se cannot fulfill all information needs. This is particularly true in the area of performance measurement. Performance measurement requires systematic recording, reporting and analysis. ACIR (Advisory Commission on Intergovernmental Relations), in its model program budget legislation, recommends an annual performance report similar to the Administrative Digest that would precede budget submission. Research has shown that the Administrative Digest was originally developed for that purpose.[3]

This idea was not pursued further by the task force and did not become one of its recommendations to the legislature.

The most recent focus on performance monitoring came with the Thomas Commission in 1990. The Thomas Commission identified the lack of a performance measurement system to provide information to support agency and program operations and accountability as a major weakness in Connecticut state government. In its study of the Office of Policy and Management[4], the commission recommended a system of performance measurement be established and implemented for state agencies. The commission found "agencies have already invested effort to develop some program descriptions and measures in connection with the program budget" and it is now time to take the next step by refining these measures so they can be used to determine program and agency effectiveness and efficiency[5].

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[3] *Task Force To Analyze The Appropriations Process and Measurement of State Programs: Final Report*, State of Connecticut, January 1985.

[4] Commission to Study the Management of State Government, *Office of Policy and Management: Final Report*, KPMG Peat Marwick, October, 1990.

[5] Ibid., page 72.

Over the past few years, the Legislative Program Review and Investigations Committee made similar findings in a number of studies it conducted of state agencies. For example, in 1986 the committee conducted a performance audit of the Department of Motor Vehicles and recommended creation of a planning and operations research unit be responsible for establishing performance indicators, developing workload measures, collecting data, and analyzing trends in customer service. The program review committee also established the "prospective evaluation project", which has reviewed several demonstration programs created by the legislature. Evaluations were conducted to indicate the impact new programs have upon the clients they are intended to serve. The committee has made numerous other recommendations requiring agencies to conduct performance evaluations where operational weaknesses were found.

More recently, the committee found a lack of performance indicators in its review of the Department of Children and Youth Services. For example, the department did not compile, regularly, the number of cases assigned to social workers, it had no measures on time taken to investigate child abuse and neglect cases, and it made no comparisons among regional offices. This lack of performance indicators is especially critical when a department, such as DCYS, is under a federal court order to spend additional sums of money in the area of child protection. This money will be spent without any notion as to whether or not the increased funding is achieving program goals set-forth in the department's budget. In the simplest example, without accurate knowledge of case load-to-worker ratios, the department will not know if the additional funds required by the federal court will have any impact on reducing the current workload, as the consent decree requires.

The need for performance monitoring of agency programs and operations has been well documented over the past 20 years. The program budget provides extensive detail on where an agency's funds are spent. It provides information on what the programs are supposed to do and how much they cost. The document does not indicate whether programs are achieving their intended objectives or how much progress is made from year to year towards accomplishing a program's mission.

The Development of Performance Indicators

The need to develop performance monitoring systems for government agencies has been documented in a number of public administration articles. Interest in monitoring operations can be found not only in the Unites States, but also among foreign governments.[6] The Government Accounting and Standards Board (GASB) states that government financial reporting should provide information to assist users in: a) assessing accountability; and b) making economic, social, and political decisions.[7] GASB has established a principle that information resulting from financial reporting should be used to assess the service efforts, costs, and accomplishments for government entities. Information about "service efforts and accomplishments", GASB's term for performance measures, is an essential element of accountability and is critical to the setting of program goals and objective, planning activities, and allocating resources.

In the private sector, resources are allocated based upon demand for products and services in a competitive marketplace. The production of goods and services is based upon the needs, wants, and desires of consumers who continually evaluate private sector performance. Poor performance can lead to failure in the private sector, and ultimately the company and product or service it produces will disappear from the marketplace (unless, of course, the business is bailed out by a government entity).

Public decision-making bodies, such as legislatures and town councils, must assess the need and quality of government services. While it is somewhat easy to assess whether or not a government agency is being responsive to the public, it is far more difficult to know the impact government programs are having, or if they are operating in the most efficient and cost effective manner. There is rarely competition among government programs and comparing the services of one agency against another is difficult because most agencies have a monopoly on the services they provide. Multiple agencies do not provide public assistance or motor vehicle services. Without a competitive environment it is difficult to measure one service against another.

In the absence of a competitive marketplace for government service, performance monitoring is the only way to know how much service the taxpayers are receiving, the quality of the service, and the cost. It also may be used to measure productivity, cost effectiveness, and impact. Before examining the current efforts in two agencies in Connecticut, the basic elements of a performance monitoring system are presented.

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[6] See Allen Schick, "Budgeting for Results: Recent Developments in Five Industrialized Countries", *Public Administration Review*, Volume 50, No. 1, January/February 1990.

[7] The Governmental Accounting Standards Board, organized in 1984, establishes standards for reporting financial accounting and reporting information for state and local governmental entities which are recognized by the American Institute of Certified Public Accountants.

Basic Principles

The Auditor General of Canada observed that "the concept [of performance monitoring] is simple - objectives, results, and resources should all be linked. The application is difficult."[8] Anyone involved with the development of performance measures can attest to this statement. However, there are generally accepted parameters that can be applied to any performance monitoring system.

The Government Accounting Standards Board (GASB) began a research project in 1987 that resulted in the identification of performance indicators for several government services. In 1990, GASB issued a research report, *Service Efforts and Accomplishments Reporting: Its Time Has Come*[9], that delineated five types of indicators that should be included in any performance monitoring system. The process is also outlined in Figure 1. The five are:

- **Input Indicators**

  These indicators are designed to report the amount of resources, either financial or other (such as personnel, bedspace, classrooms, etc.), that has been used for a specific service or program. They are frequently part of the budget document an agency submits for approval. Input indicators can be of two types:

  > Dollar cost of resources during a given period in either current dollars or in constant dollars, or measures such as per-capita or per household costs.

  > Non-monetary amounts of resources expended, such as staff time consumed, time to process, or employee hours worked.

- **Output Indicators**

  These indicators report units produced and services provided by a program. They can be a measure of the amount of work accomplished. Numerous output indicators can be found in the Governor's Budget that is submitted to the Connecticut General Assembly each year. While they do provide a basis for determining how much a program is producing, they don't indicate if the program is effective

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[8] Schick, page 26.

[9] Harry P.Hatry, James R.Fountain, Jonathan M. Sullivan, Lorraine Kremer, Editors, *Service Efforts and Accomplishments Reporting: Its Time Has Come - An Overview*, Governmental Accounting Standards Board, Norwalk, Ct., 1990.

in achieving its goals, or indicate whether the program is being operated efficiently.

- **Outcome Indicators**

  These are designed to report the results or impact a service or program has on a client group or population. Examples of outcome indicators include changes in students' test scores, changes in processing times, reduction in infant mortality, the decrease in the value of property lost due to crime prevention, or the reduction in recidivism for certain client population.

  Outcomes can be a numeric indicator of the program results and can include such measures as quality of service, timeliness in processing transactions, amount of need being served, and effectiveness in deterring anti-social behavior.

  Most importantly, when outcome measures are related to resources, they can provide important information to policy makers and the public about the cost of the results of program activities, thereby enabling them to consider the value of the service relative to its resource requirements.

  Designing outcome indicators and collecting the appropriate data to create the measures is difficult and requires an agency to devote significant time and money to this function. Often, program outcomes can only be determined over time, usually several years, and clients receiving services must be carefully tracked, even after they leave a program.

- **Efficiency and Cost Effectiveness Indicators**

  These are defined as indicators that measure the cost per unit of output or outcomes. Such indicators are the cost to process a transaction, the cost of testing, the cost of inspecting a facility, or the cost of housing inmates.

  Efficiency can be defined as the cost per unit of <u>output</u>.

  Effectiveness can be defined as the cost per unit of <u>outcome</u>.

  These also can represent productivity measures when input is related to output or input is related to outcomes. Productivity indexes can be

Figure 1. Performance Measures: The Process

INPUTS RESOURCES
- Dollars
- Staff

PROGRAM IMPLEMENTATION
- Administration
- Grants
- Direct Services
- Technical Assistance
- Regulatory Activity

OUTPUTS
- Cases
- Clients
- Customers
- Assistance

EFFICIENCY RATIOS

OUTCOMES
- Social Change
- Economic Improvement
- Infrastructure Improvement
- Health and Safety Enhancement

EFFECTIVENESS RATIOS
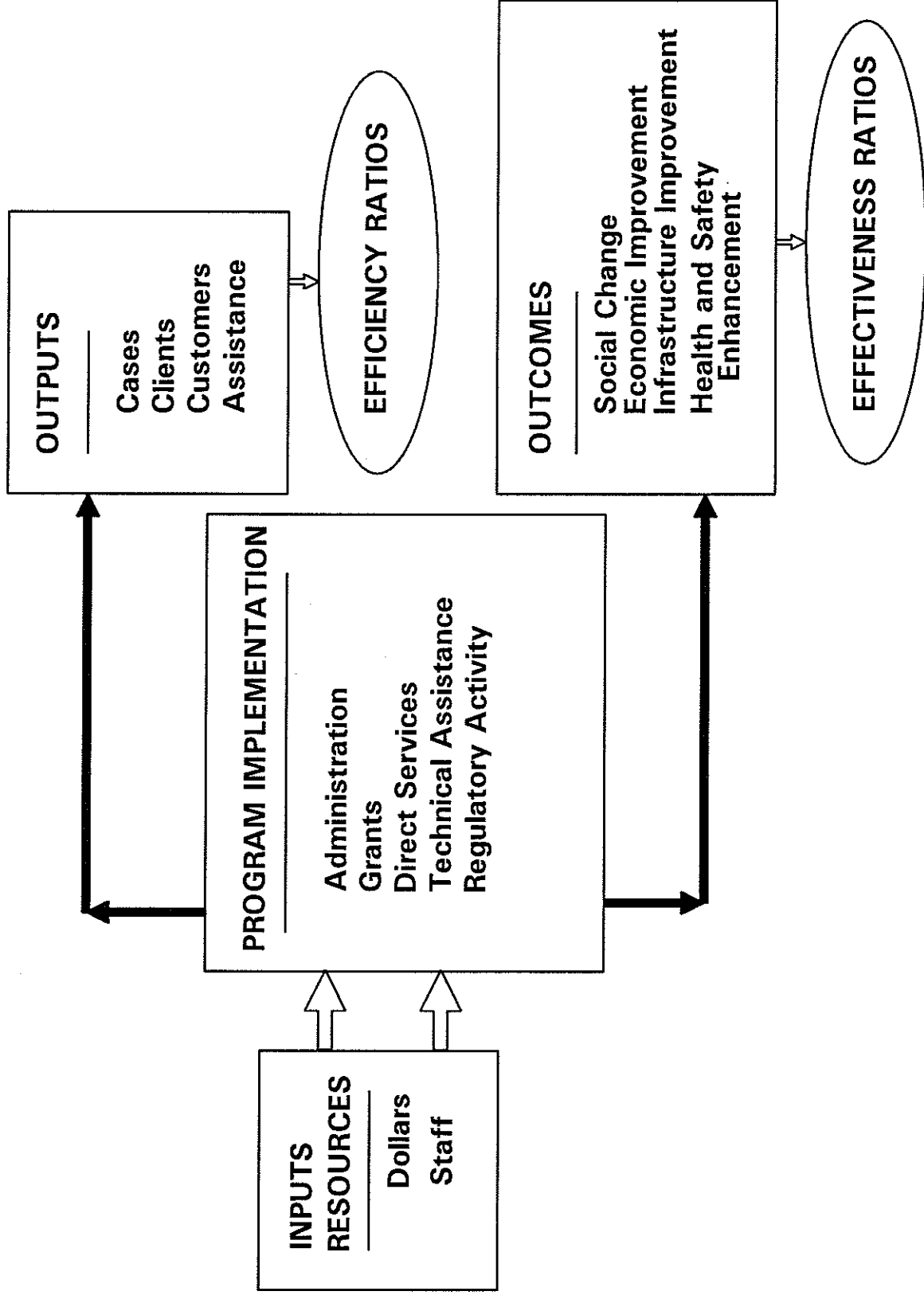
created using base year indicators and comparing them to current year indicators. This can be useful for comparing the effects of increasing or decreasing program funding.

- **Explanatory Information**

  This information covers background material on programs that might affect outcomes and outputs. This information can include elements that are outside the agency's control. For instance, changes in demographics, arrests or sentencing, all of which are beyond the control of a correction department, can have a significant impact on an inmate population.

These five indicators form the basis of a performance monitoring system. They define the types of measures needed to evaluate programs. However, the difficulty lies in the application of the measures. Many agencies do not have management information systems that can supply the data necessary to build the indicators.

Information Systems

The key to any performance monitoring system is an agency's management information system. An accountability system needs access to the following sources of information:

1) detailed staffing information;
2) detailed financial information;
3) activity/workload data; and
4) availability of physical resources (e.g., beds, computers, classrooms, etc.)

This data must exist and be accessible to develop performance indicators and workload measures. The data base is needed to calculate such fundamental measures as units of service, cost per unit of service, time to process transactions, and staff resources per unit of service. The management information system of an agency must be able to: extract data from a variety of sources; combine and disaggregate data; and allow for development of historical data for year to year comparisons. The ability to verify data entered into the system is also an important factor in maintaining credibility.

Data aggregation/disaggregation. In many respects, information presented by geographic areas, institutions or regional offices is very useful in determining performance, especially if there is variance among entities. Jurisdiction-wide averages have a tendency to mask problems occurring certain regional offices or among certain client groups. Workload information also should be grouped based upon client characteristics that require more resources, such as different levels in the severity of child abuse and neglect cases. The danger with disaggregating data is that users can be overwhelmed with information, making analysis very difficult.

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Comparing indicators. Indicators should be used for comparisons in a variety of ways:

- year-to-year, or some other extended time frame;
- similar jurisdictions, offices or entities, geographical areas;
- branch offices, client groups, patient or inmate types;
- comparisons with technically developed norms and standards; and
- comparison against indicator targets set in the previous year.

A management information system must capable of analyzing variations among comparative indicators.

Verifiable information. Information and data that go into the construction of indicators need to be verifiable and subject to standard audit procedures. That could include replicating samples and testing methodologies.

Data Sources. Agencies without a comprehensive management information system that can readily integrate data from a variety of sources will find it difficult to develop meaningful performance measures. This is probably the greatest impediment in establishing a system of accountability in Connecticut. Few agencies have information systems that allow for the merger of financial, staff, and activity data to assist in managing an agency's operations.

Performance Monitoring Systems in Connecticut

There are a few performance monitoring systems operating in Connecticut state government. In addition, Connecticut does compare favorably in its development of performance measures with that of other states. Table 1 focuses on a survey of states done by the Kentucky's Program Review and Investigations Committee.[10] The Kentucky study examined the use of performance measures in eleven states to identify components that might benefit that state. Connecticut was chosen because it had required the reporting of performance measures for nearly 10 years. The study relied upon the statutory reporting requirements of agencies as part of the budget process and did not consider the merit of the measures that are actually reported. Connecticut is one of the few states that has explicit definitions of the types of measures that should be reported. No other state in the Kentucky survey had such measures defined in statute.

Three systems in Connecticut were examined by program review staff for their ability to generate performance information. Those systems include: 1) Maxpar (Maximus Performance Analysis and Reporting System), a proprietary product of Maximus, Inc., that is currently being used in the Judicial Department; 2) the Automated Budget System being developed by the Office of Policy and Management (OPM); 3) and the Department of Transportation's (DOT) Construction Management and Reporting System and the Executive Reporting System.

Each system offers different ways of presenting performance information. The Maxpar system is the most developed in integrating financial, personnel, and activity information. The Automated Budget System has the greatest potential for state-wide application since OPM intends to implement the system in all state agencies. The DOT's Executive Reporting System is used to track construction projects and produce information on the site progress and expenditures.

Judicial Department

The Connecticut Court System is well on its way to creating the most comprehensive performance monitoring system in the state. Maximus, Inc., a private consulting firm, has been working with the Judicial Department on the development of an automated, integrated decision support system for Connecticut courts. The system, when completed, will be able to assess the productivity at each court, aggregate information on all courts, and use the individual or aggregated data to evaluate trends in workload, costs, and resource needs. The system will automatically link to existing data bases within the agency to limit the need for manual entry of information. An example of how this system is structured can best be seen by reviewing the Adult Probation Decision Support System. This system provides information on a key program of the Judicial Department, adult probation.

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[10] *Development of a Performance Measurement System for Kentucky State Government*, Office of Program Review and Investigations Committee, Research Report No. 247, February 1990.

The Adult Probation Division is composed of 20 field offices and a central administrative staff. The division employed 518 people and with a budget for FY 91 of $20,870,709. The division had a workload in excess of 30,000 cases. The Adult Probation Data Base contains five major files with 618 data elements. The files cover: 1) program costs and staff; 2) current workload; 3) workload added and discharged; 4) criminal caseload; and 5) overall state rates and averages. The various files contain such information as per diem employee costs, productive hours, current caseloads, probation violations, felonies and misdemeanors, staff time usage, and volunteer activities. The information is collected for each office as well as for central administration.

Another feature of the system is its ability to link and extract data from sources that exist within the agency. Cost information is taken from the court's financial accounting system and used to calculate a number of data elements within the decision support system for adult probation. Certain staff information is taken from Personnel Information System maintained by the court's director of personnel. However, not all the data required by the Maxpar system is currently being collected and will have to be added in the future. Actual paid staff hours is an element of the database not available from any existing system but is necessary to develop performance indicators.

An important aspect of the performance monitoring system is its connection with the court's criminal information database. The adult probation division's workload is largely dependent upon what happens in criminal courts. Fluctuations in cases, as well as types of cases, impact future staff needs. The system will be able to predict resource needs based upon trends developing in criminal cases.

Connecticut Department of Transportation

The Department of Transportation has developed two systems to monitor the performance of the state's multi-billion dollar infrastructure program. The department realized the need to acquire a construction tracking system when it began to manage over 400 projects a year. With only 35 to 45 projects to manage in the early 1980s, a manual system was sufficient, but could not meet the demands of the major highway and bridge building program that began with the collapse of the Mianus River Bridge.

The Construction Management and Reporting (CMR) System was designed to provide data entry, reporting, and inquiry of key contract information. It gives the department continuous data on project funding, inspection reports, manpower usage, contractor information, important contract dates, project location, and construction orders. In addition, the CMR system tracks expenditures and compares them with approved funding for projects. It also can produce warning reports when expenditures approach available funding so management can initiate actions to rectify shortfalls. Project tasks are also monitored with respect to related tasks and significant variances or discrepancies are brought to a project manager's attention through periodic exception reports. Most connected construction project records are maintained by the CMR system.

Table 1. Summary of Performance Measures Usage in Selected States.

State	Budget Manager	Legislative Authority or Role	Measures Named or Defined	Reporting Format	Agency's Use of Measures
Kentucky	Finance & Administration	Developing Forms For Budget Estimates	Not named or Defined	Not Applicable	Optional
Connecticut	Office Policy & Management	Not Mentioned	Explicit	Governor's Recommended Budget	Required
Georgia	Office Policy & Budget	Not Mentioned	Not Named or Defined	Govs. Recommended Budget	Required
Florida	Exec. Office of Governor Leg. Appropriations Com.	Develop Budget Instruc.	Named, But Not Defined	Budget Requests and Recommended Budget	Required
Texas	Leg. Budget Board	Auditing	Not Named or Defined	Audit Report	Not Mentioned
Washington	Governor & Office Financial Management	Auditing & Estimates	Not Named or Defined	Budget Document	Required
California	Dept. of Finance	Analyzing Budget Bill	Named and Defined	Background Documents	Required, Whenever Program Budget Required
New Jersey	Division of Budget and Accounting Within Dept. of Treasury	Not Mentioned	Not Named or Defined	Not Applicable	Not Mentioned
South Carolina	State Budget and Control Board	Auditing	Not Named or Defined	Background Documents	Required
Kansas	Division of the Budget	Auditing and Estimates	Not Named or Defined	Background Documents and Post Audits	Optional
Wisconsin	Department of Administration	Budget Requests	Not Named or Defined	Background Documents	Required
Minnesota	Commissioner of Finance	Monitoring	Not Named or Defined	Background Documents	Not Mentioned

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While the CMR system provides line supervisors and managers with accurate and detailed information on each project, DOT's senior management was not in need of such detailed information. To give senior managers summary information on projects and highlight contractors not performing according to contract, an executive reporting system was developed to extract and aggregate information from the CMR system. The Executive Reporting System is designed to give the user a visual overview of the status of all active construction projects throughout the state.

A key feature of the Executive Reporting System is the ability to target projects that fail to meet specific tolerances set by the manager on any particular item, such as bid prices and time frames. Any project that falls outside the level specified is highlighted on a computer screen and the manager is able to examine as much detail as is available on the Construction Management System. The computer screens are able to provide executives with an overview of the status of each construction district as well as any detail on projects located within a manager's jurisdiction. All the information contained in the Executive Reporting System is downloaded to personal computers nightly from the CMR System, which resides on the department's mainframe.

Automated Budget System

The Office of Policy and Management has been developing the Automated Budget System (ABS) since 1987 and plans to implement it in four agencies in the coming year. The purpose of ABS is to automate the state's budget preparation, execution, and analysis, and provide a central depository for all financial, staff, and performance measurement information.

Financial data for the system comes from the dollar value of agency expenditures, plans, and appropriations. Staff information is the count of established and filled personnel positions and will be used as the basis for projecting and controlling personnel levels. Performance measures will be those found in the governor's budget and can be used as the basis for budget models that estimate workload, population, demand statistics, and unit costs.

The ABS system is designed as a tool for financial management and control, not as a performance monitoring system. However, the developers of the system recognize that the data collected could be used with a system to monitor program performance. ABS contains some fundamental features that would assist in the creation of a performance monitoring system. These include:

- a flexible data structure that could accommodate the management framework of any agency;

- the ability to receive data from several different sources and databases;

- the ability to aggregate and disaggregate financial, position, and measurement data at various levels within an agency;

- the capability to report data in a variety of ways and over number of years; and

- the ability to assemble performance data for programs managed by more than one agency.

The system lacks the ability to generate computations of two or more measures needed to develop such indicators as staff-to-patient ratios or unit cost for service measure. However, the information needed to generate such measures will be present and it should not be difficult to build a system that can access the information and calculate the appropriate performance measures.

Current Practices in Two State Agencies:
The Department of Correction and the Department of Health Services

The study of performance monitoring is focusing on the implementation of a model system for the Department of Correction (DOC) and the Department of Health Services (DOHS). Before a model can be developed, it is necessary to examine the operations of each agency and inventory current programs, performance measures, and information systems. Where the agency stands with respect to monitoring its own performance, the use of management information, and identifying requirements needed to improve the systems in place will be determined in this study. Then the department's efforts can be compared to a model that will be developed in the final phase of this study.

The Department of Correction

The Department of Correction continues to face unprecedented growth over the next four years. The department estimates its budget reach $500 million by FY 95, nearly double the current $263 million budget. It also expects its authorized positions to increase from 5,619 to 8,000. The total population supervised by the department grew from 7,776 in 1987 to 17,343 in 1991. It is estimated that by 1993, the department will have 23,876 inmates and parolees under its jurisdiction. The Department of Correction is the fastest growing state agency and will employ the greatest number of staff by FY 95.

The Department of Correction mission is to: restrict the liberty of the men and women committed to it by the courts while awaiting trial or when sentenced to a term of imprisonment; and enhance public safety through secure detention while offering offenders the opportunity to restore themselves to community life. It also must provide a safe environment for staff. To accomplish its mission, the department administers seven programs with a number of objectives tied to each. Those programs, along with the performance indicators listed in the budget, are found in Figure 2.

Custody represents the largest program for use of staff and financial resources. The main objective of the program is to "insure the safe, secure, humane confinement of accused and sentenced inmates, both youthful and adult, who have been removed from the community by the criminal justice process."[11] This program includes the daily operation of 23 facilities housing more than 10,000 inmates. It represents the fastest growing program with expansion occurring at many facilities and several new facilities being opened over the next two years. Custody of prisoners accounts for approximately 80 percent of the department's total budget.   T h e human services program operates all inmate programs within the institutions including education, alcohol and drug addiction services, volunteer services, and religious programs. The program's main objective is to increase inmates' social skills and employability upon release to allow for successful integration into community and stable functioning in society.

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[11] 1991-1992 Governor's Budget, State of Connecticut, p. 703.

A third program is field services whose mission is to successfully restore offenders to the community upon release from prison while promoting public safety through screening and supervision of those released. While the program only uses about 8 percent of the department's budget, it is responsible for the largest number of individuals handling approximately 12,000 parolees in FY 89.

Current program measures. Each program has a number of measures listed in the budget intended to provide additional information on what the programs are doing. Though the custody program is by far the largest in the agency, there are only two performance measures listed: an offender-to-staff ratio; and a cost of custody per inmate for the year. Both measures are represented as agency-wide figures with no detail by institution.

Most other measures listed as part of the budget document are totals for such items as meetings held, hours of counseling, number of sick calls, parolees supervised, job placements, and prisoner movement between facilities. While total numbers are important indicators of workload size, they only measure output in the simplest terms. To obtain more useful measures, such as unit cost or efficiency measures, outputs need to combined with inputs.
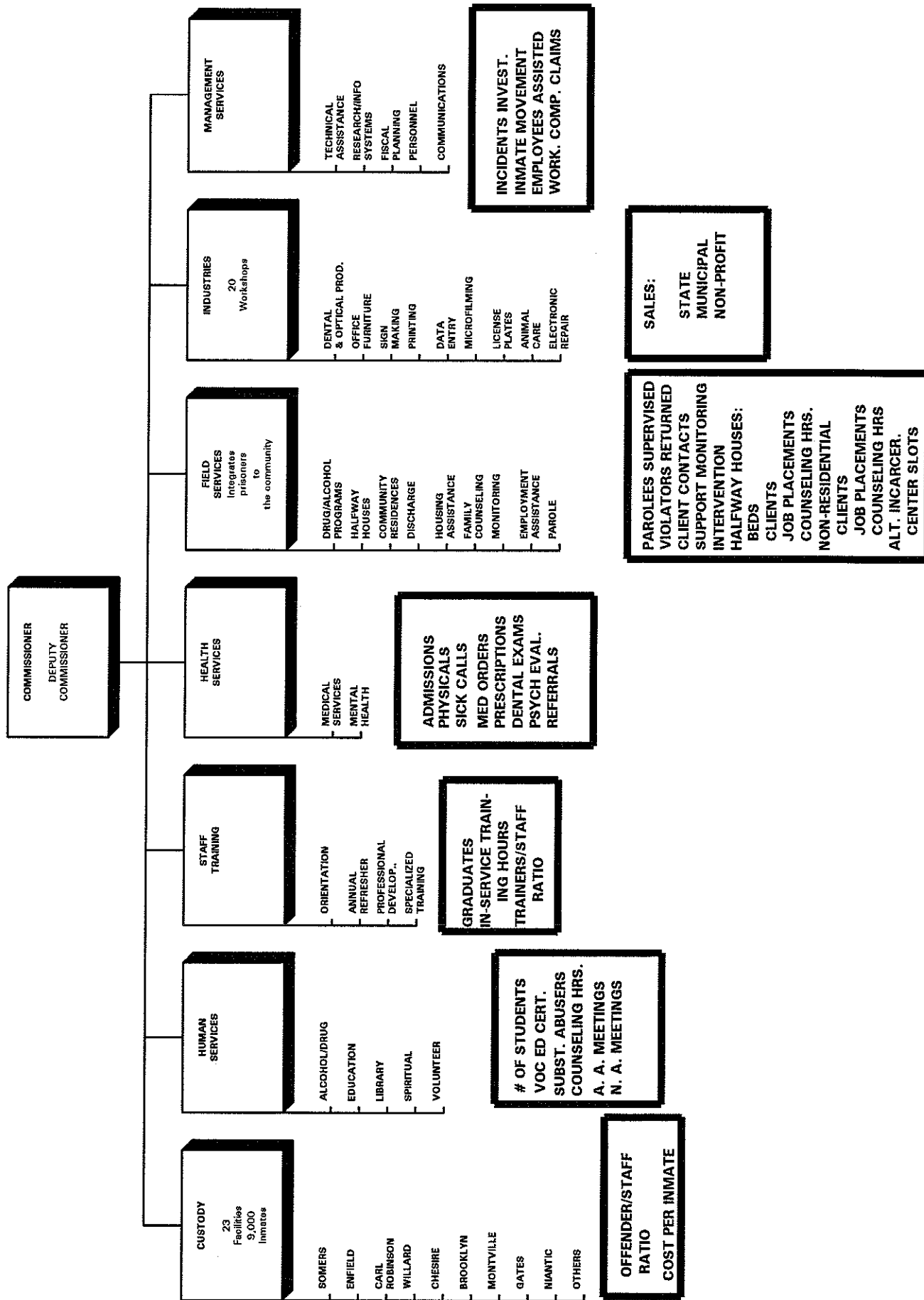
The department also produces an annual "Key Indicators Report" which presents demographic data on the inmate population, trends in facility usage, population growth statistics, and comparisons of crime rates to rates of incarceration. The report also contains historical information on the per capita cost of prisoners and projections of program usage and prison bedspace. The report does not breakdown any information by institution or type of prisoner.

Current information systems. As noted earlier, an important ingredient in building a performance monitoring system is the integration of financial, staff and activity data. The Department of Correction information systems were reviewed to assess the data currently available for performance monitoring. The following table is an outline of systems presently in use by the department.

The department maintains an array of information systems, none of which are connected for purposes of performance monitoring. This is a failure of many agencies that have been reviewed by the Legislative Program Review and Investigations Committee. The department does have several systems that contain potential performance data. There are six systems that program review staff has knowledge of that directly relate to the operation of programs and could yield significant performance data. Those systems are: 1) staffing information; 2) financial information; 3) institutional resources; 4) prisoner classification; 5) prisoner movement; and 6) disciplinary activity.

Staffing information. The current personnel systems lack the ability to determine actual resources used for a given program because they do not record specific staff-hours worked. Staff hours expended for a program is a common input measure used to determine resources available. The systems in place can only identify whether or not a position is filled, not how many hours a person actually worked in a particular area.

FIGURE 2: CORRECTIONS - CURRENT
PROGRAMS & PERFORMANCE INDICATORS

COMMISSIONER
DEPUTY COMMISSIONER

CUSTODY
23 Facilities
9,000 Inmates

- SOMERS
- ENFIELD
- CARL ROBINSON
- WILLARD
- CHESIRE
- BROOKLYN
- MONTVILLE
- GATES
- NIANTIC
- OTHERS

OFFENDER/STAFF RATIO
COST PER INMATE

HUMAN SERVICES

- ALCOHOL/DRUG
- EDUCATION
- LIBRARY
- SPIRITUAL
- VOLUNTEER

OF STUDENTS
VOC ED CERT.
SUBST. ABUSERS
COUNSELING HRS.
A. A. MEETINGS
N. A. MEETINGS

STAFF TRAINING

- ORIENTATION
- ANNUAL REFRESHER
- PROFESSIONAL DEVELOP.
- SPECIALIZED TRAINING

GRADUATES
IN-SERVICE TRAINING HOURS
TRAINERS/STAFF RATIO

HEALTH SERVICES

- MEDICAL SERVICES
- MENTAL HEALTH

ADMISSIONS
PHYSICALS
SICK CALLS
MED ORDERS
PRESCRIPTIONS
DENTAL EXAMS
PSYCH EVAL.
REFERRALS

FIELD SERVICES
Integrates prisoners to the community

- DRUG/ALCOHOL PROGRAMS
- HALFWAY HOUSES
- COMMUNITY RESIDENCES
- DISCHARGE
- HOUSING ASSISTANCE
- FAMILY COUNSELING
- MONITORING
- EMPLOYMENT ASSISTANCE
- PAROLE

PAROLEES SUPERVISED
VIOLATORS RETURNED
CLIENT CONTACTS
SUPPORT MONITORING
INTERVENTION
HALFWAY HOUSES:
  BEDS
  CLIENTS
  JOB PLACEMENTS
  COUNSELING HRS.
NON-RESIDENTIAL
  CLIENTS
  JOB PLACEMENTS
  COUNSELING HRS
ALT. INCARCER.
  CENTER SLOTS

INDUSTRIES
20 Workshops

- DENTAL & OPTICAL PROD.
- OFFICE FURNITURE
- SIGN MAKING
- PRINTING
- DATA ENTRY
- MICROFILMING
- LICENSE PLATES
- ANIMAL CARE
- ELECTRONIC REPAIR

SALES:
  STATE
  MUNICIPAL
  NON-PROFIT

MANAGEMENT SERVICES

- TECHNICAL ASSISTANCE
- RESEARCH/INFO SYSTEMS
- FISCAL PLANNING
- PERSONNEL
- COMMUNICATIONS

INCIDENTS INVEST.
INMATE MOVEMENT
EMPLOYEES ASSISTED
WORK. COMP. CLAIMS

This is important information for an agency that must staff many of its programs around the clock. Costs related to staff and outputs are very sensitive to hours actually worked. An agency's overtime budget is an indication of resources consumed beyond those of filled positions. For FY 90, correction's overtime expenditures represented almost 15 percent of its regular payroll. These resources would be unaccounted for if only filled positions were considered as inputs. A more precise measure would be actual hours worked, and it can only be obtained from an accurate time and attendance system.

There is no central staffing resource information maintained by the department. Staffing is done by each shift supervisor and staff needs can vary based upon the activities of inmates. Special programs may require additional staff to operate. There is a basic staffing complement or staffing level that is needed given the current custody requirements. Staffing levels can change daily as special needs arise and certain functions absorb more staff than others, such as a special recreation or education program.

The greatest variation in staff resources occurs in the area of custody. Correction officers are needed to control the inmate population and supervise activities. Daily staffing decisions are made within each institution by a senior officer who determines the number needed to staff routine operations such as cell blocks and non-routine operations, such as escorting a prisoner to court.

Staffing information is compiled each day by hand and submitted to the warden at the end of the day. The warden knows exactly what staff resources are used on a given day. However, the only information that appears to be forwarded to the central office is payroll information regarding the use of overtime. Overtime is the principal method for increasing staff resources.

Financial information. As Table 2 indicates, the department maintains four systems related to financial information. The first is the agency's accounting system that is used to run the agency's accounts payable and receivable. The next is the comprehensive budget system that is used to manage the agency's funds. It provides a monthly accounting of expenditures for each institution and the central office and
projects the agency's financial status for the remainder of the year. The third is the agency's link to the comptroller's payroll system. A fourth minor system allows for the balancing of inmate accounts that are maintained by the department for purchases made at the commissary.

The agency's financial administration division has begun to combine activity information with financial data to produce some average daily expenditure reports. This information approximates the unit cost measures needed to build an adequate performance monitoring system.

Table 2. Inventory of DOC's Automated Information Systems

System	Hardware Platform	Software	Type of Data	Uses of Data
Affirmative Action	Personal Computer	Lotus 123/ Wordperfect	Personnel records	Statistical analysis/ Reports
Accounting System	Digital Equipment Corp.	Vax Basic/ Datatrieve	Agency financial records/ 15,000 entries a year	Reports
Budget System: Monthly Comprehensive Status Report	Personal Computer	Lotus 123	Budget records	Reports
Payroll (Comptroller System)	Unisys	Management Sciences of America	Payroll records	Bi-weekly payroll
Inmate Records Systems	IBM Mainframe	COBOL	Inmate Characteristics	Query individual inmate files Demographic, movement, classification, sentencing, disciplinary activity, location.
Research	IBM Mainframe	SAS Software System	Population: Institutions and Community (Uses inmate characteristic data)	Analysis of trends
Check Book	Personal Computer	Quicken	Cash Accounts	Balancing Prisoner Accounts
Personnel	IBM Mainframe	CSEIS	Personnel records	Monitoring, maintaining files
Ranking	Personal Computer	R-Base	Personnel records	Personnel seniority and ranking system

Performance indicators in Corrections. The information in Table 3 is an illustration of performance measures that can be computed when activity data are combined with financial data and desegregated to the institution level. The information can be used to compare the costs

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among the facilities to determine if efficiencies in operations are achieved where costs appear to be lower for similar operations. Additional performance measures need to be developed so further comparisons in operations can be made.

The department does not have any outcome measures as defined earlier. Measures could be developed particularly in the areas of education, vocational services, and substance abuse programs. Long-term effectiveness indicators would ultimately be tied to recidivism of inmates. There are no ongoing studies looking at the long-term impact programs have on inmates.

Department of Health Services

The broad mission of the Department of Health Services is to prevent and suppress disease and to protect, preserve, and enhance the public's health. To achieve this goal the department administers 13 programs that fall into three major areas: 1) prevention and education; 2) regulation; and 3) health policy and planning. The department employs 897 staff with a budget of $93.6 million for FY 91. More than half of the department's budget is provided for by federal funds ($46.6 million). In addition, $8.7 million is used to support programs and services operating outside the agency.

Prevention and Education. Under this area the department operates six programs aimed at maintaining and improving public health. Those programs include the following:

- Maternal and Child Health Care;
- Services for Children with Special Health Care Needs;
- Laboratory Services;
- Environmental Health;
- Chronic Diseases and Urban/Rural Health; and
- Infectious Diseases.

Each of these programs covers a broad spectrum of public health needs and accounts for 73 percent of the department's budget. The primary objective is to develop and maintain healthy individuals. Efforts begin with prenatal and child health care projects and continue with initiatives aimed at reducing death and illness by: limiting the spread of infectious disease; reducing injuries due to accidents; and assessing the health effects of toxic substances found in the environment. Laboratory services are an integral part of detecting and preventing infectious and chronic diseases and environmental pollutants that threaten public health.

Regulation. The department has extensive regulatory authority over the provision of health services. It has the responsibility of licensing numerous health care providers including professionals and institutions. The goal is to ensure that minimum standards of health and safety are met in the delivery of health care services. The programs in this area include:

- Medical Quality Assurance Services;
- Emergency Medical Services;

Table 3. Department of Corrections: Average Daily Expenses - FY 1991.

Institution	Direct Expenses	Average Daily Pop.	Inmate Days	Staff Direct Expenses	Other Direct Expenses	Health Expenses	Administrative Expenses	Average Daily Expenses
Niantic	$12,183,382	603	219,974	$44.31	$11.08	$20.17	$6.47	$82.03
Brooklyn	5,018,594	230	83,938	47.29	12.49	7.96	6.99	74.74
Somers	29,134,597	1,412	515,345	44.59	11.94	10.08	6.61	73.22
Hartell	2,249,161	103	37,458	36.88	23.17	5.80	7.02	72.86
Eddy	1,417,899	65	23,619	49.98	10.05	5.20	7.02	72.25
N.E.P.R.C.	5,429,333	269	98,222	42.04	13.23	4.13	6.46	65.86
New Haven	9,864,621	549	200,226	40.43	8.84	8.95	5.76	63.97
Cheshire	14,057,571	832	303,728	37.07	9.21	7.92	5.41	59.61
Bridgeport	11,390,980	693	252,942	35.21	9.82	6.73	5.26	57.03
W.S.A.T.U.	2,574,582	157	57,296	36.78	8.15	6.38	5.25	56.56
Union Ave.	1,585,252	101	36,781	38.20	4.90	8.35	5.04	56.48
Litchfield	1,848,707	114	41,774	35.68	8.57	6.61	5.17	56.04
Willard	3,763,673	219	80,093	35.99	11.00	2.50	5.49	54.98
J.B. Gates	5,386,723	339	123,844	34.04	9.46	6.31	5.08	54.89
Morgan St.	2,626,595	182	66,427	31.31	8.24	9.74	4.62	53.90
Webster	3,017,776	193	70,418	34.23	8.63	4.86	5.01	52.73
Enfield	11,280,228	710	259,041	33.73	9.82	3.47	5.09	52.10
Montville	4,946,155	332	121,225	32.68	8.12	5.91	4.77	51.48
M.Y.I.	10,541,050	704	256,968	33.16	7.87	4.40	4.79	50.22
C.R.C.I.	18,843,760	1,332	486,008	27.96	10.81	3.01	4.53	46.32
Hartford	10,584,460	845	308,350	27.63	6.70	6.68	4.01	45.01
Jennings Rd.	$1,745,633	139	50,811	$25.05	$9.30	$4.91	$4.02	$43.28

- Community Nursing and Home Health Services;
- Hospital and Medical Care Services; and
- Commission on Hospitals and Health Care.

These programs are designed to certify, license, inspect, handle complaints, and conduct investigations for health care practitioners, emergency medical care, day care facilities, and acute care and long-term health facilities. Also found in this area is the Commission on Hospitals and Health Care, which is responsible for regulating the expansion of facilities and containing health care costs in Connecticut.

Health policy and planning. The major responsibilities of this area include health surveillance, priority setting, and health policy analysis. The principal objectives of the programs in this area are to set policy and manage the agency; collect, analyze, and interpret data related to morbidity and mortality. The two programs found in this area are: 1) Program Direction and Management Services; and 2) Health Planning, Statistical Services, Tumor Registry and Local Health Administration.

The first program handles all tasks related to the administering the agency including establishing policy through the commissioner's office, personnel administration, data processing, financial management and purchasing. The area is also responsible for budgeting and program monitoring. The second program is involved with compilation and analyses of birth and death data, monitoring the incidence of cancer, and providing assistance to local health districts.

Performance measures. The Department of Health Services has compiled an extensive list of activity measures. As part of its current budget submission, the agency has submitted over 180 measures on output for each of the 13 programs.

Most of the performance measures reported by the department represent aggregate case numbers or output. Occasionally, measures are used that compare the DOHS client population served to the total population. Other measures represent a proxy for program outcomes such as infant mortality rates or the percent of low weight births to total live births. The following table is a sample of some of the measures currently reported by the department. These measures are taken from a recent draft report on program measures submitted to the Office of Policy and Management.

As the sample measures in Table 4 indicate, the numbers represent outputs that result from programs operated by DOHS. In only two measures are there any comparisons of output measures to program inputs (resources). One is the number of staff days required to investigate complaints and the other is staff days required to perform licensure and certification activities within the Hospital and Medical Care Services Division. However, these measures do not give any indication as to staff productivity from one year to the next. The measures are an estimate of the amount of time taken to complete these activities and are not actual staff hours used.

Missing from all of DOHS measures are those for efficiency or productivity, as defined earlier, such as comparisons of the cost of doing a particular function. There has been no attempt to combine output data with any financial data to create year to year cost trends. Another area lacking performance measures is that of short-term and long-term outcomes that result from health programs. Such measures are used to determine the success programs are having on target populations; merely reporting aggregate output numbers does not demonstrate impact. Of course, DOHS is not alone in this area; outcome measures are difficult to find anywhere in state government.

DOHS Information Systems. The Department of Health Services has an extensive collection of computer and data base systems. The table in Appendix A, presents a summary of all the systems accumulating data and providing management information for the agency. There are 35 separate databases used for a variety of programs running on a number of different computer hardware platforms. (This does not include the department's automated office system.) While it is not impossible to extract data from a large variety of systems and feed the information into a computerized performance monitoring system, it is difficult, expensive, and time consuming. As mentioned previously, a performance monitoring system needs to be built upon an integrated management information system. In the absence of such a system, an agency would have to rely on ad hoc reports developed by individual program managers taking data from assorted sources.

Conclusions. The Department has invested a great deal of time in creating quantitative output measures for many of the programs it operates. However, there are no measures that combine financial or staff information to measure productivity, efficiency, or effectiveness. This would be the next step for the agency if it is develop a comprehensive performance monitoring system.

The GASB study on service efforts and accomplishments examined public health programs nationally. Researchers looked at indicators throughout the country to identify measures used by health program administrators. They focused on four areas: 1) chronic disease; 2) sexually transmitted diseases; 3) maternal and child health care; and 4) control of stress and violent behavior. Findings in the maternal and child health care programs represent a good example for comparison to the state's program.

The GASB researchers found the development of indicators for maternal and child health care programs nationwide are the most advanced and many agencies are able to report on program performance. Even in Connecticut, this program area is one of the few that reports outcome information such as infant mortality. Table 5 lists the recommended performance indicators for maternal and child health care. The GASB report cautions that these indicators are illustrative and intended to serve as a starting point for use in establishing a comprehensive set of indicators. They also note that these indicators do not provide for disaggregation data or for comparisons of program indicators for trends, targets, or among different entities.

Table 4. Performance Measures: A sample for DOHS.			
Measure	FY 91	FY 92	FY 93
Healthy Start Site Visits	24	24	24
Clinics Funded, Licensed, Monitored	118	118	118

Laboratory:
  Specimens Received
  Tests on Specimens
	483,195
	919,378
		490,000
		920,000
			490,000
			920,000

Consultations on Toxic Substances	5,100	8,000	8,000
Lead Poisoning Cases Identified	880	1,000	1,500
Number of Youth Camp Inspections	215	429	415
People Screened for High Blood Pressure	14,852	14,850	14,850
Number of High Priority Diseases Reported (Lyme,Hepatitis, Salmonella)	2,037	1,900	2,000
Infectious Disease Outbreaks Investigated	186	180	180
% Children Fully Immunized Upon Entering School	96%	97%	97%
Applications for Licensure Received	20,117	12,000	12,000
Patient Care Records Audited	730	1,500	1,500
Health Care Facility Complaints Received	308	350	350
Staff Days to Perform Licensure and Certification	20,424	22,500	22,500
Staff Days to Investigate Complaints	2,052	2,500	2,500
Nursing Home Accident/Incident Reports	58,378	49,000	49,000
Cancer Patients Followed	102,250	103,000	106,000
Legislative Inquiries Responded To	272	250	250

Table 5. Recommended Indicators for Maternal and Child Health Care Programs.

Indicator	Rationale for Selecting Indicator
INPUTS: Expenditures (may be broken out by programs or activity) Staff Resources	Measure of resources used to provide services.
OUTPUT (Process): Number of Clients Admitted to Programs Number of Clinic Visits per Month Number of Prenatal and Postnatal Mothers Contacted Number of Persons Receiving Family Planning Services Number of Pregnant Women Receiving Care in First Trimester	Widely reported measures that provide an indication of program outputs.
OUTCOME: Infant Mortality Rate Low Birth-Weight Rate Teenage Pregnancy Rate Rate of Lead Poisoning Cases Reported Cases of Preventable Diseases in Children Maternal Death Rates Death Rates for Children Number of Clients Authorized to be Served and Actually Served Percentage of Low Birth-weight Babies in Target Population Percentage of Teenage Pregnancies Among Those Participating in Programs Projected Low Birth-Weights Prevented Projected Infant Deaths Prevented	Widely reported measures that provide an indication of program short-term and long-term program accomplishments.
EFFICIENCY: Cost per Immunization	Indication of the agency's efficiency in providing immunizations
Cost per WIC Supplements per Unit	Indication of the agency's efficiency in purchasing WIC supplements
Number of Premature Births/Number of Patients	Indication of agency's efficiency in reducing premature deaths
Projected Health Care Costs Saved Through Routine Check-ups/Cost of Routine Check-ups	Indication of agency's efficiency in reducing future health care costs

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Findings and Recommendations

Findings

The way in which state government monitors the performance of its programs needs to be improved. Based upon the following principles and findings, as well as information presented earlier in the program review committee staff's briefing paper on performance monitoring, steps need to taken to enhance the quality, usefulness, and process for developing performance indicators.

A performance monitoring system should allow evaluators to examine systematic evidence on whether programs: 1) work well and be expanded; 2) are failures and need to be abandoned; or 3) are marginally successful and in need of modification. Evaluation researchers have noted that performance information must be employed when program decisions are made or it will fail to serve any useful purpose.[12] The importance of performance monitoring and evaluation lies in assisting decision makers to choose among future courses of action. Accurate and unbiased data on the consequences of programs improves the policy making process.

A critical activity in establishing a performance monitoring process is the identification of factors that influence the expected outcome of a program. Outcome research, of which performance measures are a key part, demonstrates that some policy actions work well while others have little effect. Both the development of measures and outcome research can result in the recasting of alternatives to be considered as solutions to the problem for which a program was created. Performance measures will not be the sole determinant of how well a program is operating, but they will allow decision makers to focus the debate on what ought to be, rather than what actually is occurring as a result of a program. Analysis and evaluation of the measures will also enable policy makers to shift resources to those programs having the greatest impact and away from programs having marginal impact.

This has not been the experience in Connecticut. Since the legislature first required the development of program budgeting and performance measures in 1981, state agencies have produced more than 2,000 indicators. While there has been a continual expansion in the number of indicators created by agencies, most have suffered from a lack of use by managers and policy makers, and generally lack relevance to program performance. The measures currently part of the governor's budget document do not assess outcomes, rather, they simply measure the quantity of output an agency produced with no consideration of such measures as quality of service, program impact, or unit costs. These measures are inadequate in assessing service or program success. Further, they do not follow the basic principles and guidelines set forth earlier

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[12] *Foundations of Program Evaluation: Theories of Practice*, William R. Shadish, et. al., Sage Publications, Newbury Park, California, 1991, p. 182.

in this report, nor do they follow OPM's instructions for developing program performance measures.[13]

Finally, performance measures are essential to the budgeting process. They can be used to create unit cost measures that detail the impact resources have on program operations, measure productivity, and gauge efficiencies that accompany certain organizational, policy, and management changes. The Office of Policy and Management noted that:

A sizable number of agencies have recognized their shortcomings in the area of program performance measurement. They have acknowledged the need for technical assistance and guidance and have requested such assistance from OPM.[14]

This observation is consistent with program review committee staff findings frequently cited in the course of agency evaluations. Agencies are in need of both technical assistance and guidance in construction of an adequate measure system.

To date, the creation of program measures have been left solely to the agencies. Only recently has the Office of Policy and Management taken an active role in setting the measures an agency puts forth. After 10 years, with little progress, there needs to be a new system for establishing and generating performance information. The system must involve the legislative, as well as the executive branch of government, if program measures are to be used to effectively to monitor state programs and govern public policy.

The development of a performance measurement system can be divided into three areas: 1) the process for establishing performance indicators; 2) the type of indicators created; and 3) the use of the indicators by agency management, the Office of Policy and Management, and the legislature.

Recommendations

Meaningful performance measures need to be created that are part of an ongoing evaluation research effort linked to an agency's mission and goals. The measures must come from within the agencies responsible for implementing programs. However, the measures need to be carefully constructed and reviewed by outside experts to verify their quality, integrity, and usefulness.

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[13] See *Program Measures Supplement and Guide to Improving Performance Measures*, Office of Policy and Management, State of Connecticut, January, 1992.

[14] Ibid. p. 9.

Achieving this goal is a two-step process. **First, all agencies need to create an internal task force composed of policy-makers, managers, and practitioners to examine programs and develop appropriate performance measures based upon specific criteria. This task force should be permanent and be an integral part of the agency's management team.**

Second, having established measures, the agency would then submit them to a state-wide organization having expertise and knowledge regarding performance evaluation. This organization shall be designated The Working Group on Government Performance Measures.

The group shall establish criteria to review the appropriateness of performance measures and have the ultimate authority to approve or disapprove proposed agency measures. The group may also make recommendations to an agency concerning the modification of its proposed measures. The group shall <u>not</u> be involved in the establishment of agency missions, goals, or programs and shall be concerned solely with defining measurement of program outputs and outcomes. It shall <u>not</u> be involved in the data collection or analysis of the measures.

The group shall be composed of no more than 14 members. One member shall be from the agency whose measures are being considered and approved. Two members, one each, shall be appointed by the directors of the Office of Fiscal Analysis and the Legislative Program Review and Investigations Committee, one appointed by the Auditors of Public Accounts, two members appointed by the secretary of the Office of Policy and Management, four members appointed by the governor, and one member appointed by each of the highest elected leader of the majority and minority parties of the house and the senate.

This working group shall be composed of individuals with expertise and experience in evaluation and social science research, public budgeting, or management. The group shall elect a chairman for the purposes of organizing and establishing the agenda. As participation in the work of the group will be important to meeting its mandate, any member who misses three consecutive meetings shall be deemed to have resigned and a replacement designated by the appropriate appointing authority. The terms of the members shall be coterminous with the appointing authority. The group shall meet as often as necessary.

Performance measures should be tied to program management, modifications and improvements as well as program funding. As such, each agency shall present to the working group, for approval, a plan for the use of performance measures.

Currently, program measures are submitted as part of the governor's budget document. As noted earlier, the OPM Management and Performance Evaluation Division has begun a major effort to improve the development of program measures through workshops and training. This has also resulted in the issuance of new guidelines by OPM concerning the reporting of performance measures. Their efforts are intended to refine agency measures and provide a better explanation as to their meaning and use.

Once better measures have been identified they must be reported to the widest audience possible. While some measures will only be useful for the internal management of an agency, others will be important for policy makers and the public. One of the reasons for establishing a performance monitoring system is to assure the public they are receiving a good return on their tax dollars. **While the performance measures will continue to be part of the budget document, a special report should be submitted by each agency to the appropriation subcommittee having jurisdiction over its budget each year detailing the reasons the performance measures were chosen, their use by the agency in assessing program performance, and alternatives that result from evaluation measures. In addition, this information, along with the agencies performance measures, should become part of the** *Digest of Connecticut Administrative Reports to the Governor* **that is issued each year by the Department of Administrative Services.**

Lastly, an agency's database provides critical information for the development of performance indicators. Over the next few years agencies will be updating or installing new computer systems. These systems should provide valuable data for the development of performance indicators, and, with the appropriate software, can automate the calculation and reporting of measures. **As a requirement for the installation and development of any new system, it should be mandated that consideration be given to a system's ability to produce quality performance information. This should be a part of the competitive bidding process as well as a criteria for consideration by the Office of Information Technology in its review of proposed computer systems.**

Table A. Inventory of DOHS's Automated Information Systems.

System	Hardware Platform	Software	Type of Data	Uses of Data
Affirmative Action	WANG(Minicomputer) Personal Computer	WANG UTILITIES LOTUS	Personnel Records/ 1,000 yr	Statistical Analysis, Reports
Accounting System	DEC (Minicomputer)	VAX BASIC, DATATRIEVE	Agency Financial Entries 23,500 yr	Accounting, inter-agency reports, financial statistical reports
Automated Budget System	Personal Computer	LOTUS	Budget records/12,000 yr	Reports
Central Accounting System (Comptroller)	UNISYS	COBOL	N/A	Inquiry only
Payroll (Comptroller System)	UNISYS	Management Sciences of America	Payroll Records/24,000 yr	Payroll checks, reports
Abortions	IBM (Mainframe)	TPL	Abortion Records/20,000 yr	Statistics
Birth-to-Three	Personal Computer	FOXPRO	Case Records/500 yr	Federal Reporting
Healthy Start	Personal Computer	PARADOX	Registration Records/ 20,000	Tracking, Reports
WIC	IBM (Mainframe)	COBOL	Client Recs./61,000, checks/290,000 month	Public Assistance, Reports
Aids Case Registry	Personal Computer	PRODAS	Aids Records/500 yr	Monitoring, Reports
Hepatitis B Registry	WANG(Minicomputer) IBM (Mainframe)	COBOL	Hepatitis Records/1,000 yr	Surveillance, Reports
HIV Counseling & Testing	Personal Computer IBM (Mainframe)	PRODAS FOCUS	HIV Counseling & Testing Records/15,000 yr	Statistics, Reports
Lead Registry	Personal Computer	DBASE	Lead Test Records/5,000 yr	Surveillance, statistics
Radon Registry	Personal Computer	DBASE	Radon Survey Records/ 5,000 yr	Statistics

System	Hardware Platform	Software	Type of Data	Uses of Data
STD Registry	WANG (Minicomputer)	COBOL	STD Case Records/ 20,000 yr	History, Statistics
TB Registry	WANG (Mini)	COBOL	TB & Related Case Records/2,700 yr	Surveillance, monitoring and Statistics
Water Supplies	Personal Computer (LAN)	DBASE, FORTRAN	Water Quality Test Records/20,000 yr	Reports, Inquiries
Child Day Care Licensing	WANG (Mini)	COBOL	Day Care Records/1,500 yr	Licensing
EMT Test Scoring	IBM (Mainframe)/ Personal Computer	FORTRAN XENIX	Test Scores/75 yr Renewals/27,000 yr	Certification, Statistics
Home Health Agencies Cert./Fac.	IBM (Mainframe)	SAS	Facility Data Statistical Records/110 yr	Certification, Statistics
Homemaker/Home Health Aide Cert. Personnel)	WANG (Mini)	WANG UTILITY	Application Records/1,500 yr	Certification
License & Registration	IBM (Mainframe)	COBOL, EASYTRIEVE	Licenses/125,000 yr Maintenance Records/ 75,000 yr	Licensing and Data Requests
LTC Facility Inspection	Personal Computer	DBASE	Inspection Records/600 yr	Reports
Public Health Hearing	WANG (Mini)	COBOL	Complaint Records/500 yr	Disp. Tracking
Caelus Medical	DEC (Mini)	BASIC ASSEMBLER	Specimen/Sample Data/ 320,000 yr Final Reports/320,000 yr	Reports, Billing

Table A. Inventory of DOHS's Automated Information Systems.

Table A. Inventory of DOHS's Automated Information Systems.

System	Hardware Platform	Software	Type of Data	Uses of Data
PKU	DEC (Mini)	BASIC ASSEMBLER	Blood Test Data (3 recs per birth) 150,000 recs per yr. Reports/100,000 yr	Reports, Statistics
Toxicology Tracking	WANG (Mini)	PACE	Police Case Data/17-20,000 yr. 300,000 Records in System - Generate 300,000 Reports	Reports, Statistics
Health Risk Appraisal	Personal Computer	BASIC, SAS	Survey/10,000 yr	Statistical, Reports
Birth Certs. (AVSS)	DEC (Mini)/ IBM (Mainframe)	MUMPS IBM UTILITIES	Birth Certificates/50,000 yr	Federal Reporting, Public Requests, Statistical Analysis, Reports
Divorce Certs.	IBM (Mainframe)	IBM UTILITIES	Divorce Certificates./ 12,000 yr	Public Requests, Reports, Statistical Analysis
Health Status	IBM (Mainframe) Personal Computer	SAS, TPL SYSTAT, SMARTWARE	Vital Records	Public Requests, Reports Statistical Analysis
Long Term Care	IBM (Mainframe)	COBOL	Facility & Patient Records/ 53,000 yr	Statistical Analysis, Reports
Marriage Certs.	IBM (Mainframe)	IBM UTILITIES	Marriage Certs./ 27,000 yr	Public Requests, Reports, Statistical Analysis
Mortality Certs.	IBM (Mainframe)	COBOL, EASYTRIEVE	Mortality Certificates/29,000 yr	Federal Reporting, public requests, statistical analysis, reports

Table A. Inventory of DOHS's Automated Information Systems.				
System	Hardware Platform	Software	Type of Data	Uses of Data
Tumor Registry	IBM (Mainframe)	COBOL, EASYTRIEVE	Hospital Records (New)/ 24,000 yr, Followups/85,000 yr	Federal Reporting, Tracking, Statistical, Analysis, Research Requests
WANG: Calendaring	WANG (Mini)	Used Department Wide as Part of Office Automation		
WANG: E-Mail	WANG (Mini)	Used Department Wide as Part of Office Automation		
WANG:Word Processing	WANG (Mini)	Used Department Wide as Part of Office Automation		
Cater Tracking	IBM (Mainframe) /WANG (Mini)	EASYTRIEVE COBOL	Job Charge Records/ 15,000 yr	Charge Back Costs To Sections, Monitor Costs
Personnel Update	Personal Computer	DBASE	Personnel Records/1,000 yr	Reports, Inquiries

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